

relating to the etiology of tuberculosis. The author repeated the inoculation experiments of Koch, with similar results. The experiments of Formad to induce tuberculosis in rabbits by introducing into the cavity of the abdomen finely powdered inorganic material, have also been repeated with entirely negative results. The author held that Koch's bacillus was an essential factor in the etiology of tuberculosis.

Dr. C. E. Bessey, in a paper on the adventitious inflorescence of *Cuscuta glomerata*, stated that the examination of young plants shows that the inflorescence is developed from numerous crowded adventitious buds, and not by the repeated branching of axillary flowering branches as commonly stated.

In a paper on the hitherto unknown mode of oviposition in the Carabidæ, Prof. C. V. Riley records habits of *Chlenius impunctifrons*, traced from the eggs up. The eggs are laid singly, in cells made of mud or clay, on the under surface of leaves.

Mrs. A. B. Blackwell read a paper on the comparative longevity of the sexes. The study was exhaustive, and made on statistics from all parts of the world; and the greater longevity of woman over man was established. In old countries the females preponderate, while males lead in newly settled ones. Up to eighteen years the males are in excess of the females; later the females predominate in numbers.

THE PRIME MERIDIAN CONFERENCE

THE Prime Meridian Conference at Washington on Monday adopted the Greenwich line as the universal prime meridian. Only one vote—that of St. Domingo—was given against its adoption; but the representatives of France and Brazil declined to vote.

The following details of the session are from the *Times* Correspondent:—

To the American resolution for adopting the Greenwich line, Mr. Fleming (Canada) moved an amendment to the effect that the Conference should adopt the 180th degree of longitude east from Greenwich as the prime meridian; but the other British delegates opposing the proposition it was lost. Señor Valera, the Spanish Minister, said that he had been instructed by his Government, in voting for the meridian of Greenwich, to say that it hoped the metric system of weights and measures would be adopted by England, the United States, and the other nationalities there represented, as recommended by the Conference at Rome. Gen. Strachey (Great Britain) said that he was authorised to state that his country had asked to be allowed to join the Metrical Convention, and that the metric system was already recognised by the laws of Great Britain, and was in use for scientific purposes. He could not, however, say that it would be adopted in any circumstances as a popular system of weights and measures throughout England. M. Lefavre (France) said the Greenwich was not a scientific meridian, and that it implied no progress in any science, but was merely a commercial standard. Since, therefore, nothing would be gained to science by adopting Greenwich, France could not make a sacrifice of her own meridian, and incur the vast expense consequent upon the adoption of a new one, because she would thereby gain no advantage whatever. Sir William Thomson, who was present as a guest, by the invitation of the Conference, spoke in favour of the choice of Greenwich. He said that it was purely a matter of convenience, and that Greenwich answered the world's convenience better than any other standard meridian. Sir Frederick Evans (Great Britain) presented a statement showing that the shipping tonnage controlled by the Greenwich standard of longitude was about 14,000,000 tons, and that controlled by the Paris one only 1,735,000 tons. From the statement of chart sales, &c., to nations outside England, he showed how largely the Greenwich measure was used.

The resolution recommending the choice of Greenwich was then adopted, the ayes being 21, and there being but one nay—San Domingo. France and Brazil abstained from voting.

Mr. Rutherford (United States) moved that from the Greenwich meridian the longitude be counted in two directions, up to 180°, the east longitude being "plus," and the west "minus." The Russian Minister advocated this proposal, but Count Lowenhaupt (Sweden) moved the adoption of the fourth resolution of the Roman Conference for counting longitude continuously through the whole 360°. Herr von Alvensleben (Germany) said that this was a matter of detail, and therefore he should not vote upon it. The British delegates agreed with the Ger-

man Minister that this was a matter of detail, and held that it would not make any difference which method was adopted. Señor Juan Pastorian (Spain) stated that he favoured the plan of counting longitude westward continuously round the world.

The discussion was here adjourned.

UNIVERSITY AND EDUCATIONAL INTELLIGENCE

OXFORD.—The beginning of Michaelmas Term shows that the University and Colleges have not been idle in erecting new buildings for the accommodation of students. The new buildings of Magdalen—to be called the Waynflete Buildings—are ready for occupation, and will be used this term. No one can deny that the most beautiful of Oxford Colleges has added a new ornament to the city in the Waynflete Buildings. The new buildings of Trinity College are rapidly approaching completion. Stretching back from quaint old Kettle Hall in Broad Street, they extend to near the beginning of the Lime Walk in the College Garden. The open space in front of the College—known as Trinity Green—will now be bounded on the east by these new buildings. The Green will thus become one of the largest "quads" in Oxford. On the north side of the University Museum the new Physiological Laboratory is rising. Its situation is one of the pleasantest in Oxford. That Prof. Burdon-Sanderson is attracting pupils to physiology is a patent fact in Oxford, and one that will be received outside that city with the strongest feeling of satisfaction.

Since last Term we have to deplore the loss of Mark Pattison, Rector of Lincoln College. Mr. Merry, Public Orator in the University, and Fellow and Tutor of the College, has been elected his successor.

The following scheme of lectures and classes has been agreed on by the Board of the Natural Science Faculty:—

In the Department of Physics Prof. Clifton will lecture on the Galvanometer and Methods of Measuring Electric Currents, and on Thermo-Electricity. Prof. Price will lecture on Optics, Physical and Geometrical. Prof. Clifton and Mr. Walker give instruction in Practical Physics in the Clarendon Laboratory. Mr. Walker will give a course on Questions incidental to the Practical Study of Mechanics and Heat. Mr. Baynes will give a course of lectures at Christ Church on Thermodynamics, and form a class for practical instruction in Magnetic and Electrical Measurements. Mr. Dixon will give a course of experimental lectures, on Elementary Heat and Light, at Balliol College. Prof. Pritchard will lecture on Spherical Astronomy, and form a class for practical work in the University Observatory.

In the Department of Chemistry Prof. Odling will give a course of lectures on 3-carbon and 4-carbon compounds. Mr. Fisher will lecture on Inorganic, and Dr. Watts on Organic, Chemistry. At Christ Church Mr. Vernon Harcourt will form a class for Volumetric Analysis. Practical instruction in Chemistry is given daily in the Museum Laboratory, and in the Chemical Laboratories at Christ Church and Balliol College. Prof. Gilbert will complete his course on the Constitution of Plants, and will then lecture on the Effects of Manures, Exhaustion and Variations of Season on the Amounts of Produce and on the Composition of Wheat.

In the Morphological Department Prof. Moseley will begin his course of Comparative Anatomy; each lecture will be followed by special demonstrations on the subject of the lecture. Dr. Hickson gives a course on the Morphology of the Vertebrata, each lecture to be followed by special demonstrations. Mr. Barclay Thompson lectures on the Anatomy of the Mammalia; Mr. Jackson on the Fundamental Principles of Comparative Embryology; Mr. Poulton on the Distribution of Animals; Mr. Morgan on Odontography and on Human Osteology. Prof. Westwood will lecture on the Insect Skeleton.

In the Department of Physiology Prof. Burdon-Sanderson will lecture on the Physiology of Circulation and Respiration. Practical instruction will be given in the Laboratory by the Professor, Dr. Dixie, and Dr. Gotch.

Prof. Bayley Balfour will give a course of lectures in the Botanic Garden, on the General Morphology of Plants.

Prof. Prestwich will lecture at the Museum on the Principles and Elements of Geology. Dr. Tylor will lecture on the Intellectual Development of Mankind.

During the course of the present Michaelmas Term, Scholarships will be awarded in Natural Science at the following Colleges:—At Balliol College, without limitation of age; at

Christ Church, limited to persons under nineteen; at Magdalen College, limited to persons under nineteen years on July 2, 1885.

Mr. J. N. Dobie has been elected to a Natural Science Scholarship at Exeter College in Biology and Chemistry.

CAMBRIDGE.—Mr. G. F. Harmer, B.A., of King's College, has been appointed Demonstrator of Comparative Anatomy. Mr. Harmer was placed in the first class of the Natural Sciences Tripos in 1883, being distinguished in Zoology and Comparative Anatomy.

An examination for Entrance and Foundation Scholarships will be held at Gonville and Caius College, beginning on January 9 next. Six Entrance Scholarships, varying in value from 40*l.* to 80*l.*, may be awarded. The successful candidates must come into residence in October 1885. They may be awarded for Classics, Mathematics, or Natural Science, separately or combined. They are tenable for a year, when the holder will be eligible for a Foundation Scholarship. The scholarships may be increased or diminished each year, according to the scholar's performances in the College or University Examinations. Those who distinguish themselves in the Triposes may have their scholarships prolonged after their degree. A successful candidate, who after the examination enters for competition at another College, forfeits *ipso facto* any scholarship for which he may have been recommended. Candidates must be under nineteen years of age on the first day of examination. Undergraduates of the College may at the same examination compete for scholarships, in which case there is no restriction of age. Candidates in Natural Science will be examined in Physics, Chemistry, Biology, and Animal Physiology, and will be expected to show proficiency in at least two of these subjects, of which chemistry must be one. The Rev. A. W. W. Steel, Senior Tutor, will furnish fuller particulars.

Lectures and Demonstrations on Physics and Chemistry in Michaelmas Term: Prof. Stokes, short course on Double Refraction and Polarisation; Mr. Atkinson, Heat and Hydrostatics; Mr. Glazebrook, Electricity (el.), also Advanced Physics; Mr. Shaw, Physics, Elementary and Advanced; Mr. Hart, Mechanics and Heat (1st M.B.); Electricity (Nat. Sci. Tripos, Part I); Practical Physics, Demonstrations and Practical Work at Cavendish Laboratory.

Chemistry: Prof. Liveing, General Course; Prof. Dewar, Dissociation and Thermal Chemistry; Mr. Main, Elementary Organic Chemistry; Mr. Pattison Muir, General Principles, and Elementary Chemistry, especially Metals; Mr. Heycock, General Principles (non-metals).

Demonstrations in Spectroscopic Analysis, Prof. Liveing; Special Demonstrations for Medical Students, Mr. Sell and Mr. Fenton; also Special Demonstrations for Nat. Sci. Tripos, Part I; Mr. Robinson, Demonstrations in Analysis of Food and Water; Practical Work at the University, St. John's, Caius, and Sidney College Laboratories.

Prof. Lewis, Mineralogy and Crystallography; Demonstrations on Minerals, by Mr. Solby.

Prof. Stuart, Mechanism and Applied Mechanics; Mr. Lyon, Rigid Dynamics. The Mechanical Workshops are open from 8 to 1 and 2 to 6 daily.

Geology: Prof. Hughes, Economic Geology and Geological Surveying; Tides, Mr. E. Hill; Stratigraphy, Dr. R. D. Roberts; Palæontology, Echinoidea, Mr. T. Roberts; Constituents of Rocks, Mr. A. Harker. Field Lectures will be specially announced.

Botany, Elementary, with Practical Work, Dr. Vines; Physiology of Plants, Advanced, Dr. Vines.

Zoology and Comparative Anatomy: Prof. Newton, Evolution in the Animal Kingdom; Elementary Morphology (Invertebrata, Mr. Sedgwick; Advanced Invertebrata, Mr. Harmer; Mammalia, Living and Extinct, Osteology, Strickland Curator (Dr. Gadow).

Physiology, Elementary Course, with Practical Work, Prof. Foster; Chemical Physiology, Advanced, Mr. Lea; Advanced Course of Physiology and Histology, Mr. Langley; Preparation for 2nd M.B., Mr. Hill.

Human Anatomy, Muscular System, Prof. Macalister; also Demonstrations of Visceral Anatomy; General Pathology, Prof. Roy; also Practical Class in Morbid Histology.

Advanced Mathematical Lectures: Prof. Stokes, Optics; Prof. Cayley, Recent Developments in Analysis and Geometry; Prof. Darwin, Theoretical Astronomy; Mr. Forsyth, Higher Algebra, Binary Forms; Mr. Hobson, Higher Dynamics; Mr.

Glazebrook, Higher Geometrical Optics; Mr. J. J. Thomson, Electrostatics; Mr. Macaulay, Thermodynamics; Dr. Besant, Theory of Equations, Differential and Integral Calculus; Mr. Lock, Fourier's Series, and Vibrations of Strings and Bars; Mr. Stearn, Hydrodynamics; Mr. Temperley, Laplace's Functions; Mr. Webb, Theory of Attractions and Elasticity, if a sufficient number apply.

THE formal inauguration of the University College of North Wales, Bangor, has been fixed for the 18th inst., and it is expected that the Duke of Westminster, the Earl of Powis, Lord Aberdare, Lord Penrhyn, Mr. Mundella, and other gentlemen, will take part in the proceedings. The fitting up of the new laboratories and lecture theatres for the chemical and physical departments is being rapidly pushed forward, and the buildings include a very complete suite of rooms for the use of each department. An excellent equipment of scientific apparatus has been secured for all branches of chemistry and physics. Mr. George Macgowan, F.R.S.E., formerly of Prof. Fresenius's Laboratory, Wiesbaden, and now of Prof. Kolbe's Laboratory, Leipzig, has been appointed Demonstrator in Chemistry under Prof. Dobbie, and Mr. D. M. Lewis, M.A., Trinity College, Cambridge, Demonstrator in Physics under Prof. Gray.

SOCIETIES AND ACADEMIES

SYDNEY

Linnean Society of New South Wales, July 30.—Dr. James C. Cox, F.L.S., Vice-President, in the chair.—The following papers were read:—Revision of the Lamellibranchiata of New Zealand, by Capt. F. W. Hutton, F.G.S. This is a carefully revised list of all the Lamellibranchiate mollusks of New Zealand, with the corrected synonyms and localities of each species. A list is also given of the names of each genus which had been wrongly included by previous authorities in the New Zealand fauna.—List of some New South Wales Zoophytes identified by Dr. Kirchenpauer, by Baron Sir F. von Mueller, K.C.M.G., F.R.S., &c. The list contains the exact localities of six species of Hydroids and fifteen of Bryozoa collected by Miss Bate on the south-east coast, and Miss Hodgkinson at the Richmond River. They were all detached from sea-weeds, and identified by Dr. Kirchenpauer, Burgomeister of Hamburg.—New Fishes in the Queensland Museum, part iii., by Charles W. De Vis, M.A. Mr. De Vis in this paper goes through the families *Berycidae*, *Scienidae*, *Carangidae*, *Scombridae*, *Trachinidae*, and *Triglidae*, describing in all twenty-three new species, mostly from the coasts of Northern Queensland.—Census of Australian snakes, with descriptions of two new species, by William Macleay, F.L.S. The two new species are named *Dipsas boydii* and *Diemenia atra*, both from the Herbert River District, Queensland. The census gives the names, references, and localities of 108 species of snakes, thirty-five of these being innocuous, and seventy-three venomous. The paper concludes with some remarks on the immunity from snake-bite enjoyed by Australia, as compared with India.—On a new species of kangaroo (*Dorcopsis chalmersii*) from the south-east end of New Guinea, by N. de Miklouho-Maclay. A young kangaroo obtained by N. de Miklouho-Maclay in New Guinea, in 1880, has proved to be (on account of the great size of the premolars, the general shape of the skull, and the direction of the hair on the neck) a new species of *Dorcopsis*, which he describes as *Dorcopsis chalmersii*, Mcl. The specific name, *Chalmersii*, is given in honour of the well-known and distinguished missionary of the south coast of New Guinea. The paper contains a full description of the animal and its dentition.—On a complete debouchement of the sulcus Rolando into the fissura Sylvii in some brains of Australian aborigines, by N. de Miklouho-Maclay. A complete junction of the sulcus Rolando with the fissura Sylvii, which is very rare in brains of our race (a single case only having been described by Prof. Turner), has been found by the author in two out of four brains of Australian aborigines. The junctions of the sulcus Rolando with other sulci are, according to Dr. Maclay, also not uncommon in brains of men of dark races, and occur more frequently than in the brains of men of the white race.—The Australian Hydromedusæ, part v. (conclusion), by R. von Lendenfeld, Ph.D. In this paper the monograph on the Australian Hydromedusæ is brought to a close. All known Australian species are enumerated, with the necessary references, and thirty new species discovered and described by the author are added. The total number of species